Listing and Amendments to the Claims

This listing of claims will replace all previous versions and listings of claims in this application:

1. (Currently Amended) Wireless network system, comprising:

a first access point for providing a first communication channel to a first terminal; ~~and~~

a second access point for providing a second communication channel to a second terminal;

wherein the first access point is adapted to build up a third communication channel to the second access point to coordinate a setting of the first and second communication channels;

wherein the first access point is adapted to perform a detection for the second access point;

wherein the first access point is adapted to establish the third communication channel to the second access point when the second access point is detected via at least one of a core network and a wireless channel; .

wherein the first access point is adapted to determine whether there is a first free channel and a second free channel; and

wherein, in case there are first and second free channels, the first access point is adapted to control a setting of the first and second communication channels on the basis of the first and second free channels.

2. (Cancelled)

3. (Currently Amended) ~~Wireless~~ The wireless network system according to claim 1, wherein the first and second communication channels are wireless channels~~; wherein the first access point is adapted to determine whether there is a first free channel and a second free channel; and wherein, in case there are first and second free channels, the first access point is adapted to control a setting of the first and second communication channels on the basis of the first and second free channels~~.

4. **(Currently Amended)** The wireless~~Wireless~~ network ~~system~~according to claim 3, wherein, in case there are no first and second free channels, the first access point is adapted to determine a first interference and channel usage map;

wherein, in case there are no first and second free channels, the first access point is adapted to request a second interference and channel usage map from the second access point;

wherein the first access point is adapted to determine an optimized channel lay-out on the basis of the first and second interference and channel usage maps; and

wherein the first access point is adapted to control the setting of the first and second communication channels on the basis of the optimized lay-out.

5. **(Original)** The wireless network according to claim 4, wherein a plurality of third access points is assigned to the first access point for coordinating communication channels to associated terminals; and wherein a plurality of fourth access points is assigned to the second access point for coordinating communication channels to associated terminals.

6. **(Original)** The wireless network of claim 1, wherein the first and second communication channels correspond to first and second frequencies in the ISM band.

7. **(Currently Amended)** Access point device for a wireless network system, wherein the access point device is adapted to: provide a first communication channel to a terminal; and build up a second communication channel to another access point to coordinate a setting of the first communication channel:

wherein the access point device is further adapted to: perform a detection for the other access point; and establish a second communication channel to the other access point when the other access point is detected via at least one of a core network and a wireless channel;

wherein the first access point is further adapted to determine whether there is a first free channel; and

wherein, in case there is a first free channel, the first access point is further adapted to control a setting of the first communication channel on the basis of the first free channel.

8. **(Cancelled)**

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9. **(Currently Amended)** ~~Access~~ The access point device according to claim 7, wherein the first communication channel is a wireless channel~~; wherein the first access point is further adapted to~~ ~~determine whether there is a first free channel; and wherein, in case there is a first free channel,~~ ~~the first access point is further adapted to control a setting of the first communication channel on~~ ~~the basis of the first free channel~~.

10. **(Currently Amended)** ~~Access~~The access point device according to claim 9, wherein, in case there is no first free channel, the first access point is further adapted to determine a first interference and channel usage map;

wherein, in case there is no first free channel, the first access point is further adapted to request a second interference and channel usage map from the other access point;

wherein the first access point is further adapted to determine an optimized channel lay-out on the basis of the first and second interference and channel usage maps; and

wherein the first access point is adapted to control the setting of the first communication channel on the basis of the optimized lay-out.

11. **(Currently Amended)** Method of operating an access point of a wireless network, the method comprising the steps of:

providing a first communication channel to a terminal; ~~and~~

building up a second communication channel to another access point to coordinate a setting of the communication channel;

performing a detection for the other access point;

establishing a second communication channel to the other access point when the other access point is detected via at least one of a core network and a wireless channel;

determining whether there is a first free channel;

controlling a setting of the first communication channel on the basis of the first free channel in case there is a first free channel;

determining a first interference and channel usage map· in case there is no first free channel;

requesting a second interference and channel usage map from the other access point in case there is no first free channel;

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determining an optimized channel lay-out on the basis of the first and second interference and channel usage maps; and

controlling the setting of the first communication channel on the basis of the optimized lay-out.

12. **(Cancelled)**